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(74) Agent: **KIM, Inhan**; 5th Fl, Daerim Bldg, 1695-4, Seocho-dong, Seocho-ku, Seoul 137-883 (KR).

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(71) Applicant (*for all designated States except US*): **PHICOM CORPORATION [KR/KR]**; 60-29, Gasan-dong, Kumchon-gu, Seoul 153-801 (KR).

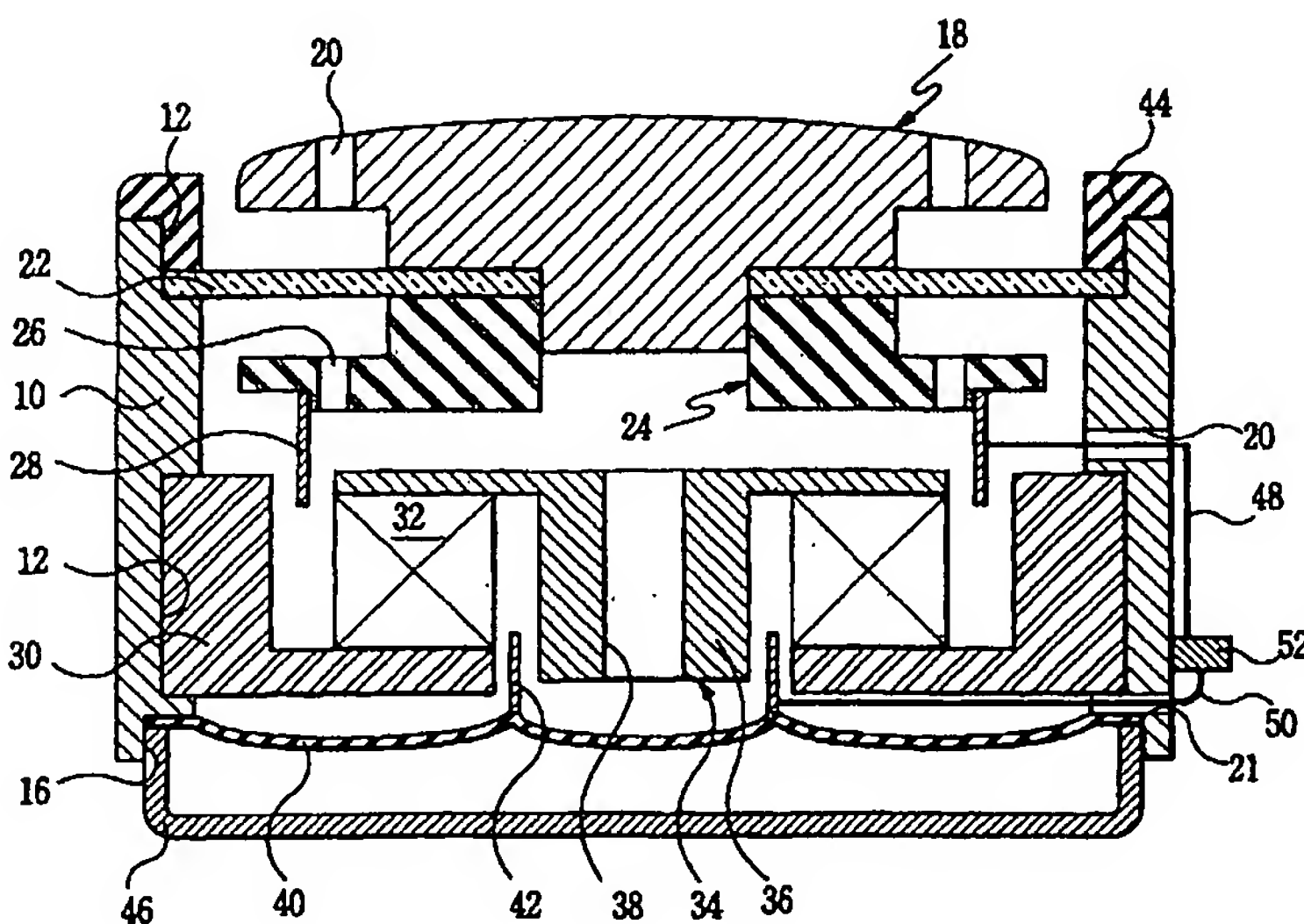
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(71) Applicants and
(72) Inventors: **LEE, Oug-ki [KR/KR]**; A/12, Green Villa, 1-5, Ilang-dong, Guro-gu, Seoul 152-140 (KR). **KIM, Joo-Bae [KR/KR]**; 285, Kogang-1-dong, Ohjung-gu, Bucheon-shi, Kyunggi-do 421-800 (KR).

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(54) Title: **BONE VIBRATING SPEAKER USING THE DIAPHRAGM AND MOBILE PHONE THEREBY**



(57) Abstract: The present invention relates to a bone conduction speaker using a vibrating plate. The bone conduction speaker using a vibrating plate according to the present invention is characterized in that the bone conducting speaker comprises: a body having a shape of a cylinder with an upper portion and a lower portion opened; a mastoid having a lower diameter and an upper diameter, wherein the lower diameter is relatively smaller than the upper diameter; a vibrating plate being inserted to a lower portion of the mastoid to close an upper opening portion of the body, wherein the vibrating plate is made of an elastic material; an auxiliary vibrating plate being inserted to a lower portion of the mastoid under the vibrating plate which is inserted

to the mastoid; a vibrating coil being attached on a lower side of the auxiliary vibrating plate; a speaker plate being fixed at an inner central portion of the body having the shape of the cylinder, wherein a central hole is provided at the central portion of the speaker plate; a ring type magnet being fixed on the speaker plate; a yoke, wherein an edge portion of the yoke is fixed on the ring type magnet and a central portion of the yoke has a protrusion which protrudes in the inside direction of the central hole of the speaker plate; an acoustic vibrating plate being fixed at a lower portion of the body to close a lower plane of the body; an acoustic coil being fixed on the acoustic vibrating plate and being inserted between the ring type magnet and the yoke; and an electrical signal input unit for applying a predetermined electrical signal to at least one of the vibrating coil and acoustic coil.

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